MITSUBISHI ELECTRIC

CE

Air-conditioner Network System

Centralized Controller
Model: AG-150A

Instruction Book
(Web browser for User)

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Before using the controller, please read this Instruction Book carefully to ensure correct operation. Retain this manual for future reference.

WT05492X03
Ver.2.1

1 Introduction

Special features of Mitsubishi Electric Corporation's "Centralized Controller AG-150A" is that a PC connected to a LAN can be used to monitor the operation condition of air conditioners and perform air conditioner operations.

The document explains the procedures to monitor the status of and to operate the centralized controller G-150A on the Web browser is described.

Hereinafter, "Centralized controller AG-150A", unless otherwise specified, will be called "AG-150A".

Note: License of "Web Monitor" or "Basic License Pack" is necessary to use the web browser. Register the license key on the AG-150A LCD screen. And license of "Personal Web" is necessary to operate or monitor the air conditioners.

Note: Use a security device such as a VPN router when connecting the AG-150A to the Internet to prevent unauthorized access.

Note: "Booster unit" and "Water HEX unit" are referred to as "Air to water".

1-1 Conventions Used in this Manual

- "Click" refers to the action of positioning the mouse cursor on the object (such as button or folder), pressing down, and releasing the left mouse button once.
- Unless otherwise specified, the example screen images used in this manual are Windows® XP and Internet Explorer 6.0 screen images.

  Note: Windows is a registered trademark or trademark of Microsoft Corporation USA in the United States and other countries.
- The K transmission converter (PAC-SC25KAA) and OA processing unit (LOSSNAY) are not included in systems shipped to North America (USA & Canada).

1-2 Computer Requirements

To monitor and operate air conditioners by web browser, computer must include the following requirements.

Table 1-1 Computer Requirements

Item		Requirement
CPU		Pentium 300MHz or faster
Memory		64M Bytes or more (128M Bytes or more recommended)
Screen resolution		1024 x 768 or higher recommended
Compatible browser	Windows	Microsoft® Internet Explorer 6.0 or later Note: You must have a Java® execution environment. (Sun Microsystems® Java Plug-in Ver.1.6.0.02 or later). Note: You can check the Sun Microsystems Java Plug-in version in "Java" in a control panel.
	Macintosh	Safari (with Mac OS X) Note: You must have a Java execution environment. (Sun Microsystems Java Plug-in Ver.1.4.2 or later). You can download from Apple Computer's homepage. Note: You can check the Sun Microsystems Java Plug-in version at the [Help]-[Installed Plug-ins] on the Safari browser.
On-board LAN port or LAN card		One connector (100BASE-T)
Other		Pointing device such as a mouse

Note: Microsoft is a registered trademark or trademark of Microsoft Corporation USA in the United States and other countries.

Sun Microsystems and Java are trademarks or registered trademarks of Sun Microsystems Inc. in the United States and/or other countries.

2 Setting the Operating Environment

PC settings and web browser settings required for using a web browser to monitor air conditioner units and perform operations are explained in the following pages.

2-1 Setting the PC IP Address

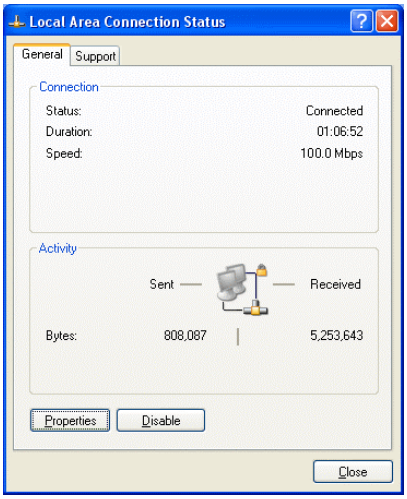
Set an IP address on the PC that enables AG-150A to connect via a web browser. For instance, if the AG-150A IP address is [192.168.1.1], the PC IP address will need to belong to the same system [192.168.1.101].

If the AG-150A is connected to an existing LAN, ask the LAN administrator to decide what PC IP address to use.

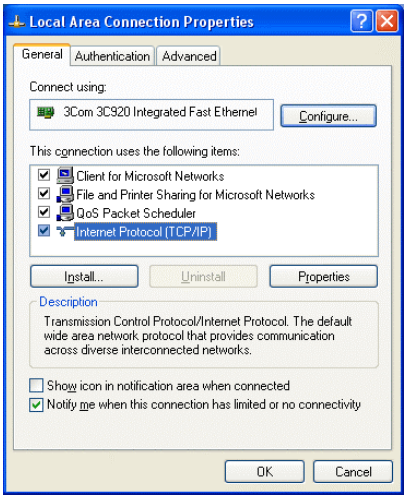
Note: When using a AG-150A dedicated LAN, it is recommended that the AG-150A main unit be given an IP address within the range [192.168.1.1] - [192.168.1.40] and the PCs that will be connected to the AG-150A be given an IP address within the range [192.168.1.101] - [192.168.1.150]

(1) Click on [Control Panel] under [Start] to open the Control Panel.

(2) In the Control Panel window, double click [Network and Dial-up Connections] and the Network and Dial-up Connections window will open. Double click on [Local Area Setting] and the [Local Area Connection Status] dialog will open. Click [Properties].



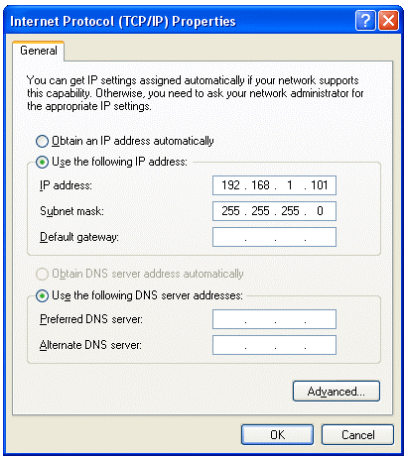
(3) In the [Local Area Connection Properties] dialog, click [Internet Protocol] to select it and click the [Properties] button.



(4) In the [Internet Protocol (TCP/IP) Properties] dialog, click [Use the following IP address] and enter the IP address (for example, “192.168.1.101”) that you want to set in the IP address field.
You normally set [255.255.255.0] as the subnet mask.

Note: Ask your LAN administrator to provide the IP addresses and subnet mask.

(5) Click the [OK] button to close this dialog, and then close the other open dialogs to complete the network setting.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 1 . 101
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

2-2 Setting the Web Browser

Use a security device such as a VPN router when connecting the AG-150A to the Internet to prevent unauthorized access.
If no security devices are installed, the operation settings may be changed by an unauthorized person without the knowledge of the user.

Necessary web browser settings must be performed to enable the web browser to connect to the AG-150A.

Note: The settings and screen images used as examples in this manual are based on Internet Explorer 6.0.

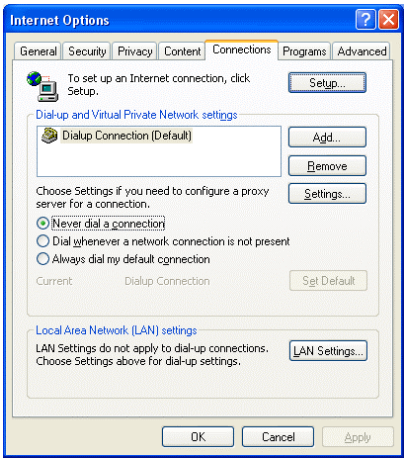
2-2-1 No Internet Connection

Follow the instructions below to make the web browser environment settings when using the PC with no Internet connection for monitoring and operating the air conditioners.

(1) Click the web browser menu item [Tools] and then click [Internet Options…] to select.

(2) In the [Internet Options] tabbed dialog, click the [Connections] tab to display.

(3) Select [Never dial a connection] in the Dial-up settings section and click the [OK] button to close the dialog.


Internet Options
General Security Privacy Content Connections Programs Advanced
To set up an Internet connection, click Setup.
Setup...
Dial-up and Virtual Private Network settings
Dialup Connection (Default)
Add...
Remove
Settings...
Choose Settings if you need to configure a proxy server for a connection.
Never dial a connection
Dial whenever a network connection is not present
Always dial my default connection
Current Dialup Connection
Set Default
Local Area Network (LAN) settings
LAN Settings do not apply to dial-up connections. Choose Settings above for dial-up settings.
LAN Settings...
OK Cancel Apply

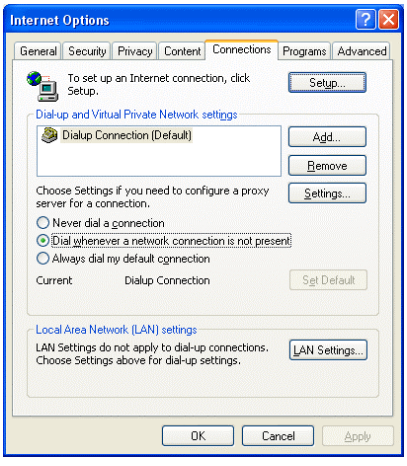
2-2-2 Internet Connection Using a Dial-Up

If the PC you use for monitoring air conditioners and performing operations is going to connect to the Internet via a dial-up connection, use the procedure given below to set the web browser environment settings.
By performing these settings, a message will appear asking whether or not to use a dial-up connection when an Internet connection is necessary. When connecting to the Internet, follow the directions below.

(1) Click the web browser menu item [Tools] and then click [Internet Options…] to select.

(2) In the [Internet Options] tabbed dialog, click the [Connections] tab to display.

(3) Select [Dial whenever a network connection is not present] in the Dial-up settings section and click the [OK] button to close the dialog.


Internet Options
General Security Privacy Content Connections Programs Advanced
To set up an Internet connection, click Setup.
Setup...
Dial-up and Virtual Private Network settings
Dialup Connection (Default)
Add...
Remove
Settings...
Choose Settings if you need to configure a proxy server for a connection.
Never dial a connection
Dial whenever a network connection is not present
Always dial my default connection
Current Dialup Connection
Set Default
Local Area Network (LAN) settings
LAN Settings do not apply to dial-up connections. Choose Settings above for dial-up settings.
LAN Settings...
OK Cancel Apply

2-2-3 Connecting to the Internet using a proxy server (Using an existing LAN)

If the PC you use for monitoring air conditioners and performing operations is going to access the Internet via proxy server by connecting to an existing LAN such as a LAN within your company, use the procedure given below to set the web browser environment settings.
By performing these settings, your PC will connect to a proxy server only when connecting to the Internet.

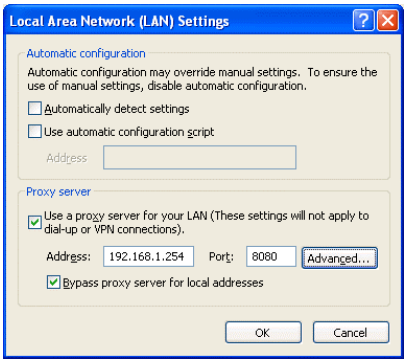
(1) Click the web browser menu item [Tools] and then click [Internet Options…] to select.

(2) In the [Internet Options] tabbed dialog, click the [Connections] tab to display.

(3) Select [Never dial a connection] in the Dial-up setting section.

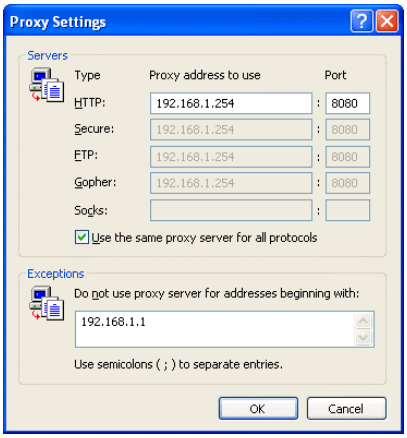
(4) Click the [LAN Setting ...] button in the Local Area Network (LAN) settings section to display the Local Area Network (LAN) Settings dialog.

(5) In the Local Area Network (LAN) Settings dialog, check [Bypass proxy server for local addresses] and click the [Advanced...] button.


Local Area Network (LAN) Settings
Automatic configuration
Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatically detect settings
Use automatic configuration script
Address
Proxy server
Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections).
Address: 192.168.1.254
Port: 8080
Advanced...
Bypass proxy server for local addresses
OK
Cancel

(6) Enter the IP address for the AG-150A (e.g. 192.168.1.1) in the Exceptions field of the Proxy Setting dialog and click the [OK] button to close the dialog and then close the other open dialogs to complete the setting.

Note: If connecting to more than one AG-150A, you can specify multiple IP addresses like [192.168.1.1; 192.168.1.2], however, it is also possible to use the asterisk (*) and specify [192.168.1*].



3 Performing Operations

Text below explains how to connect to the AG-150A and how to monitor and adjust the operation condition of air conditioners. Follow the directions given here when performing operations.

Note: If the AG-150A is restarted due to a power interruption etc., wait until the screen on the AG-150A main unit displays the normal operation screen (it takes several minutes before the normal operation screen is displayed) before using a web browser to access the AG-150A. If access is attempted while the AG-150A is still starting up, the most recent data might not be displayed or communication errors could occur.

Note: Default IP address of AG-150A is "192.168.1.1". (Factory setting)

3-1 Logging in on the AG-150A

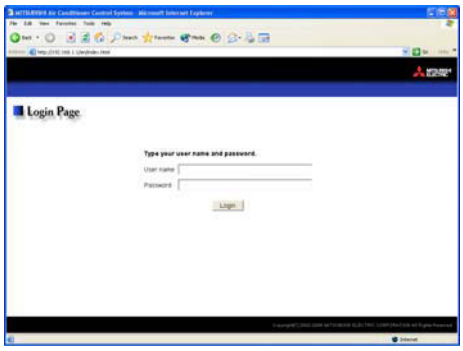
3-1-1 Logging in on the AG-150A

(1) Enter the web page address in the address field of the web browser as follows:

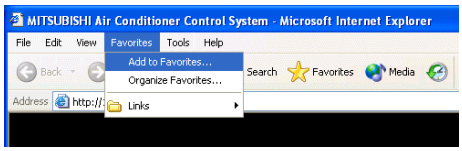
http ://[IP address of the AG-150A]/index.html

Press the [Enter] key on the keyboard. A screen appears for login.

Note: For example, type “http ://192.168.1.1/index.html” if the AG-150A IP address is [192.168.1.1].



(2) To make connection easier for the next time, click the web browser menu item [Favorites], click [Add to Favorites], then add the address to the Favorites folder. Once this address is added to the Favorites folder, it is not necessary to input the address of (1). Simply select it from the Favorites folder and the AG-150A page will appear.



(3) Enter the user name and the password in the login screen, and click the [Login] button. The screen for monitoring the operation condition will appear. An explanation on how to perform operations in the normal operation screen begins from the next page.

Note: Consult your administrator for your user name and password.

Note: The Web page is displayed in the same language as the computer uses and it is also possible to display the Web page in other languages by entering the following Web page addresses.

English : http ://[IP address of the AG-150A]/en/index.html
German : http ://[IP address of the AG-150A]/de/index.html
French : http ://[IP address of the AG-150A]/fr/index.html
Spanish : http ://[IP address of the AG-150A]/es/index.html
Italian : http ://[IP address of the AG-150A]/it/index.html
Russian : http ://[IP address of the AG-150A]/ru/index.html
Chinese : http ://[IP address of the AG-150A]/zh/index.html
Portuguese : http ://[IP address of the AG-150A]/pt/index.html
Japanese : http ://[IP address of the AG-150A]/ja/index.html

3-1-2 Encrypting the communication data and login on the AG-150A

AG-150A can encrypt communication data using HTTPS (SSL).

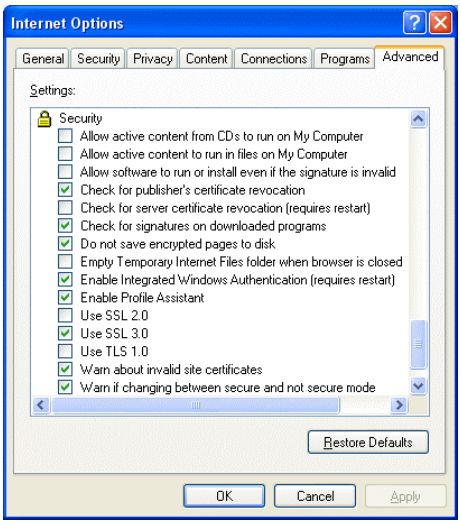
When connecting the AG-150A to the LAN that can be accessed by the general public, it is recommended that the following settings be made so that the units are monitored and controlled on the encrypted Web page.

Note: Depending on the operating system or the version of Java, HTTPS encrypted messages may not be handled correctly. If this happens, use a HTTP connection to monitor and control the units as noted in the section above.

(1) Go to [Tools]->[Internet Options]->[Advanced], and make the following settings.

Item	Checkbox setting
Use SSL 2.0	Uncheck the box.
Use SSL 3.0	Check the box.
Use TLS 1.0	Uncheck the box.
Do not save encrypted pages to disk	Check the box.

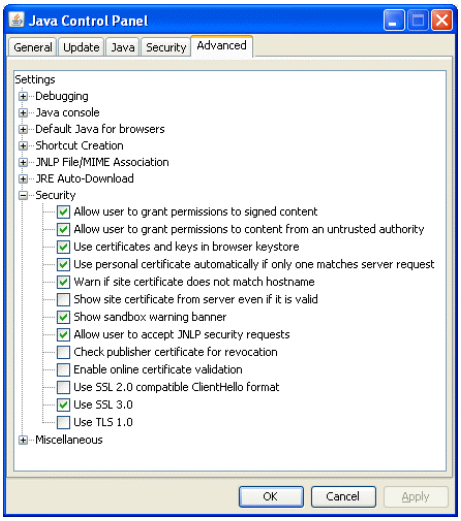
Note: Some of the settings may have different names depending on the Web browser version.



(2) Click on [Java] in the Control Panel, and make the settings for the items under [Security] in the [Advanced] tab.

Item	Checkbox setting
Use SSL 2.0 compatible Client Hello format	Uncheck the box.
Use SSL 3.0	Check the box.
Use TLS 1.0	Uncheck the box.

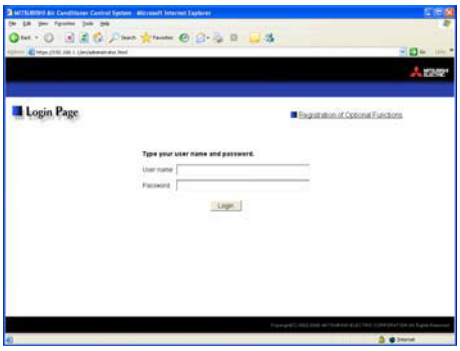
Note: Some of the settings may have different names depending on the Java version.



(3) Prefix the Web address with [https], enter the address, and hit the [Enter] (Return) key on the keyboard.

https ://[IP Address of the AG-150A]/index.html

Note: For example, type “https ://192.168.1.1/index.html” if the AG-150A IP address is [192.168.1.1].



If the security alert is disabled as described in the note in the following and the subsequent sections, encrypted date communication will begin, and the Login screen will appear. If the security alert has not been disabled, take the following procedures.

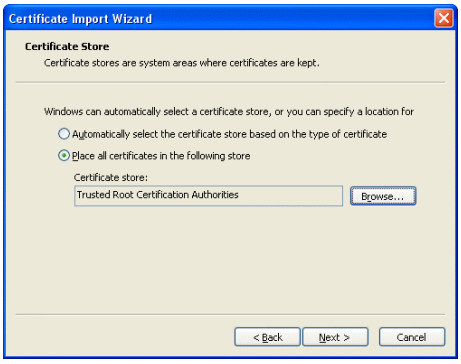
(4) If the security alert has not been disabled, after entering the web address and hitting the Enter (Return) key, a security alert message will alert asking if you want to proceed. This is because the AG-150A uses the self-authentication system. Click [Yes] and proceed.

Note: Disable the security alert that appears every time the browser is opened, take the following two steps:
1) Register the security certificate and
2) Change the Web browser's option settings

To register the security certificate, click the [View Certificate] button on the security alert window to display the certificate, click on the [Install Certificate] button, and add the certificate to the Trusted Root Certification Authorities store. Just follow the prompts of the Import Wizard.

Go to [Tools]->[Internet Options]->[Advanced], and make the following settings for the Web browser.

Item	Checkbox setting
Warn about invalid site certificates	Uncheck the box.


Certificate Import Wizard
Certificate Store
Certificate stores are system areas where certificates are kept.
Windows can automatically select a certificate store, or you can specify a location for
Automatically select the certificate store based on the type of certificate
Place all certificates in the following store
Certificate store:
Trusted Root Certification Authorities
Browse...
< Back
Next >
Cancel

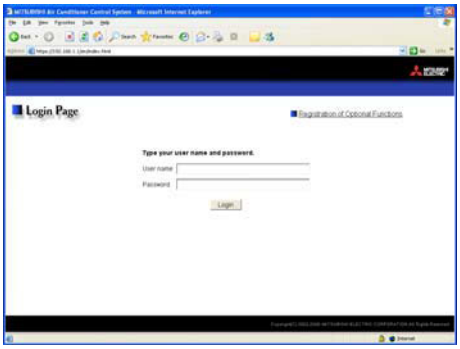
(5) A Java security alert message will appear after you click [Yes] in step (4) above, click [Yes] again to proceed.

Note: To disable the security alert message that appears every time the browser is opened, check the check box next to [Always trust content from this publisher], and click [Yes]. The browser may need to be restarted to reflect the change.

Warning - Security
The web site's certificate cannot be verified. Do you want to continue?
Name: 192.168.1.1
Publisher: Mitsubishi Electric Corporation
Always trust content from this publisher.
Yes
No
The certificate cannot be verified by a trusted source.
More Information...

Note: If the window shown on the right does not appear and connection fails, the certificate needs to be added to the Java certificate list. Click the [View Certificate] button on the screen in step (4) to display the certificate, click on the [Copy to File] on the [Details] page, and save the certificate in any desired location in the DER format. Open [Java] in the Control Panel, click on the [Certificates] button on the [Security] page to bring up the certificate registration screen. On the screen, select [Secure Site], click on the [Import] button, change the File of type to [All Files], and select the saved certificate. Now the certificate has been added to the Java certificate list.

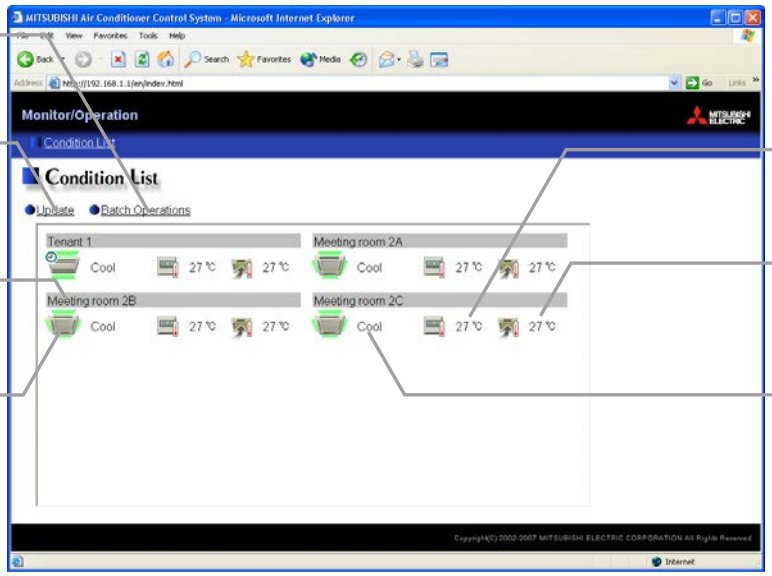
(6) If a connection is successfully made, the login window will appear. All communication with the AG-150A will be encrypted. The Web addresses for general users and in each language will have the web address in the previous section with "http" changed to "https".



3-2 Checking the Operation Condition

When you login correctly using the Login Screen, the screen used to monitor the operation conditions of air conditioner and general equipment and hot water supply groups will appear. If you wish to operate, click the group icon to switch to the operation screen.

Note: The operation condition display will not update automatically. If you wish to view the very latest condition, click [Update] on each screen.



Batch operation
Click to perform an operation on all groups at once.

Update to most recent condition
Click to update the screen so that the most recent condition is shown.

Group name
Group names are displayed.

Group icons
These icons are used to indicate the operation condition of an air conditioner or a general equipment group. Switch to the operation screen by clicking the icon.

Set temperature display
The set temperature is displayed here.

Room temperature display
The temperature of the indoor unit's intake is displayed here.

Operation mode display
The operation mode is displayed here.

Item	Description
Update to most recent condition	Click [Update] to ensure the displayed items reflect the most recent operation condition.
Batch Operation	Click [Batch Operation] if you want to perform an operation on all groups at once.
Group name	Group names are displayed.
Group icon	The operation condition is indicated by the icon that is displayed. When you point to a group icon with the mouse cursor, the group name is displayed. To switch to the operation screen, click on the icon. The icons used to indicate the operation condition are shown below. (1) Air conditioner group operation condition

ON	OFF	Error	Filter sign
Interlocked ventilator ON	Interlocked ventilator OFF	Schedule set	Energy saving
Setback ON			

Note: Other than 4-aiflow icons, 2-airflow or ceiling-suspended icons are also available. Select the icon type on Initial Setting Web.

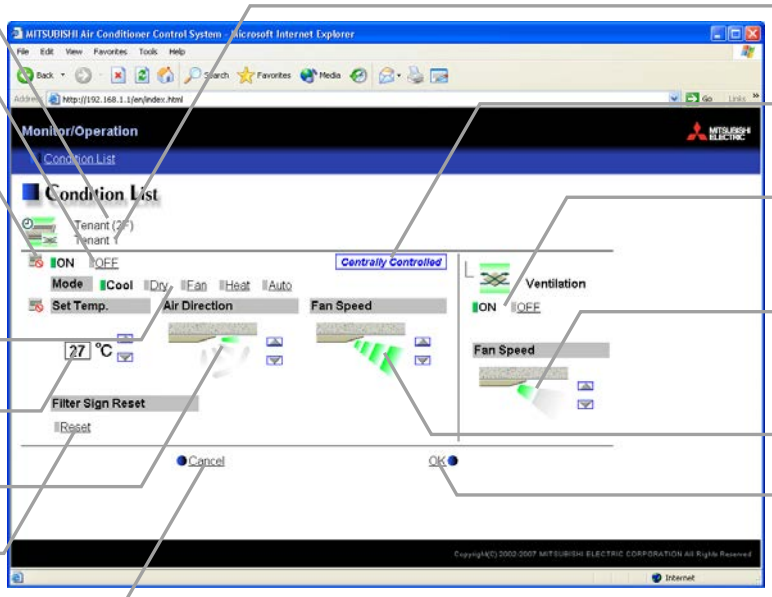
<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Group icon</td><td>
(2) Ventilator (Lossnay) group operation condition
<table>
<tr><th>ON</th><th>OFF</th><th>Error</th><th>Filter sign</th></tr>
<tr><td> </td><td> </td><td> </td><td> </td></tr>
<tr><th>Schedule set</th><th>Energy saving</th></tr>
<tr><td> </td><td> </td></tr>
</table>
(3) Hot water supply group operation condition
<table>
<tr><th>ON</th><th>OFF</th><th>Error</th><th>Check water</th></tr>
<tr><td> </td><td> </td><td> </td><td> </td></tr>
<tr><th>Schedule set</th><th>Energy saving</th></tr>
<tr><td> </td><td> </td></tr>
</table>
(4) General equipment group operation condition
<table>
<tr><th>ON</th><th>OFF</th><th>Error</th><th>Schedule set</th></tr>
<tr><td> </td><td> </td><td> </td><td> </td></tr>
</table>
Note: Other than lighting icons, pump or card key icons are also available.
</td></tr>
<tr><td>Operation mode display</td><td>The operation mode is displayed here.</td></tr>
<tr><td>Set temperature display</td><td>The set temperature is displayed here.
Note: The water temperature setting will be displayed for the hot water supply group.</td></tr>
<tr><td>Room temperature display</td><td>The temperature of the indoor unit's intake is displayed here.
Note: Because the temperature displayed here is of the indoor unit's intake, it could be different from the actual room temperature.
Note: The current water temperature will be displayed for the hot water supply group.
Note: The temperature display can be in either Celsius (°C) or Fahrenheit (°F) depending on the setting.</td></tr>
</table>

3-3 Performing the Operations

Text below explains how to perform air conditioner or general equipment or hot water supply operations.

3-3-1 Performing the operations that target one group

When you click on a group icon in the operation condition monitoring screen, the operation screen for that group will appear. The items shown in this screen are the current operation conditions. Modify the items you want to change and click [OK] to confirm the operation details. Click [Cancel] to return to the previous screen without making any changes.



Block name
The name of the block is displayed here.

ON/OFF
Click to switch to ON or OFF.

Operation prohibition mark
If the prohibit setting has been set for an operation, the prohibition mark will be displayed.

Operation mode
Click to switch the operation mode.

Set temperature
Click to adjust the set temperature.

Air direction
Click to adjust the air direction.

Filter sign
Click to reset the filter sign.

Cancel button
Click to cancel all operations.

Group name
The name of the group is displayed here.

Central control mark
This is displayed when the units are centrally controlled.

Interlocked ventilator ON/OFF
Click to switch interlocked ventilator ON or OFF.

Fan speed of interlocked ventilator
Click to adjust the fan speed of the interlocked ventilator.

Fan speed
Click to adjust the fan speed.

OK button
Click to confirm the operation details. You must press the OK button for the operation to take effect.

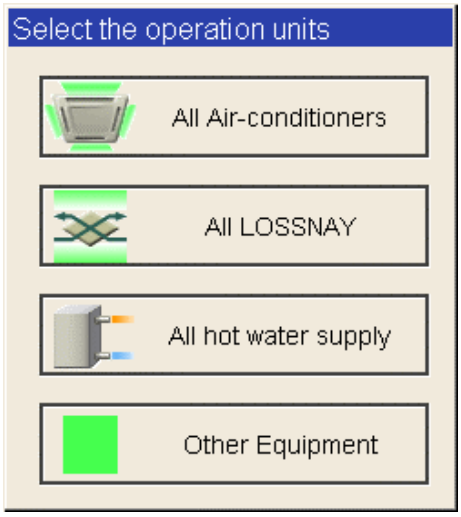
Item	Description
ON/OFF *1	Click [ON] or [OFF] to switch to ON or OFF.
Operation mode	Click [Cool], [Dry], [Fan], [Heat] or [Auto] to switch the operation mode. Note: This item will not appear if the operation mode switching function is not available. Note: Some unit models do not support certain operation modes. Unsupported operation modes are not displayed. Note: For K control models, all modes are displayed, however, choose only the modes that can be operated. Note: If it is a ventilator group, select [Bypass], [Heat Recovery] or [Auto]. Note: When making the settings for the hot water supply group, elect from [Heating], [Heating ECO], [Hot Water], [Anti-freeze], and [Cooling].
Set temperature	Click to adjust the set temperature. For [Cool] and [Dry], the setting range is 19 ~ 30°C/67 ~ 87°F, for [Heat] it is 17 ~ 28°C/63 ~ 83°F, and for [Auto] it is 19 ~ 28°C/67 ~ 83°F. Note: This item will not appear if the temperature setting function is not available. Note: The temperature setting range varies depending on the unit model. Note: If the setting range for set temperature is restricted, the temperature setting range will be smaller. Note: The temperature setting range for the hot water supply group is as follows: [Heating] mode : 30°C ~ 45°C or 50°C / 87°F ~ 113°F or 122°F [Heating ECO] mode : 30°C ~ 45°C / 87°F ~ 113°F [Hot Water] mode : 30°C ~ 90°C or 70°C / 87°F ~ 194°F or 158°F [Anti-freeze] mode : 10°C ~ 45°C / 50°F ~ 113°F [Cooling] mode : 10°C ~ 30°C / 50°F ~ 87°F.
Air direction	Click to adjust the air direction. Note: If it is a model that does not support air direction adjustment, this item is not displayed. Note: Available functions vary depending on the unit model.
Fan speed	Click to adjust the fan speed. Note: If it is a model that does not support fan speed adjustment, this item is not displayed. Note: Available functions vary depending on the unit model.
Filter sign	Click [Reset] to specify whether to reset the filter sign. It is set to reset when a green indicator is displayed on the left of Reset ([Reset]). Note: If filter signs are not triggered in the group, then this item is not displayed.

Item	Description
Interlocked ventilator ON/OFF *1	Click [ON] or [OFF] to switch interlocked ventilator ON or OFF. Note: For groups that are not connected to an interlocked ventilator, the items related to interlocked ventilators are not displayed.
Fan speed of interlocked ventilator	Click to adjust the fan speed of the interlocked ventilator. Note: For groups that are not connected to an interlocked ventilator, the items related to interlocked ventilators are not displayed.
Operation Prohibition mark	When air conditioners are centrally controlled, the central control mark will be displayed, and if the prohibit setting has been set for any operations, the operation prohibition mark [ ] will be displayed next to those operation items. If the prohibit setting has been set for an item, it is not possible to operate that item.

*1: The change on the interlock setting between the indoor and LOSSNAY units made on the indoor unit side will not be reflected on the LOSSNAY unit side on the screen until the OK is pressed and the change is saved. The actual interlock setting, however, is immediately effective, so as soon as the interlock setting on the indoor unit side is set to ON, the LOSSNAY unit will go into operation when one or more indoor units go into operation regardless of the display on the screen.

3-3-2 Adjusting the operation conditions that target all groups

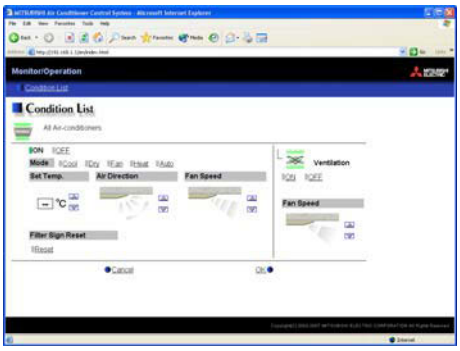
(1) Click [Batch Operation] from the operation condition monitoring screen that displays all groups in a list. When air conditioner groups, ventilator (LOSSNAY) groups, and general equipment groups exist together in the List, a new screen will appear to select the group. Click one of the [All air-conditioners], [All LOSSNAY], [All hot water supply], or [Other Equipment] and the screen to set the batch operation will appear.
If there is only air conditioner groups or only LOSSNAY groups or only hot water supply groups or only general equipment groups, this selection screen will not appear.



(2) After you have made the settings on the screen for batch operation, click [OK] and only the items for which operation was performed will be sent to all the air conditioner, ventilator (LOSSNAY) groups, hot water supply groups or general equipment groups.
To return to the previous screen without performing any operations, click [Cancel].

Note: If the setting range for set temperature is restricted, the temperature setting range will be smaller.

Note: If operation of an item has been prohibited, then operation is not possible for that item.



This product is designed and intended for use in the residential, commercial and light-industrial environment.

The product at hand is based on the following EU regulations:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive, 2004/108/EC

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

MITSUBISHI ELECTRIC CORPORATION

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